

35 U.S.C. §103(a) as being unpatentable over Rowe (US Patent No. 5,442,377) in view of Siddiqui (US Patent No. 5,912,661).

The Examiner asserts, in the Office Action at page 2, lines 21-23, that "Rowe teaches a plurality of rotating bodies (12, 12a-12c) in the shape of spheres and are disposed on the circumferential edge of the roller bearing (20) in column 4, lines 50-59, figure 1 at 12, 12a-12c, 24, 26)."

However, in the Rowe mouse, the rotating bodies are prevented from "rotating along with a circumferential edge of said wheel about the first axis" (as recited in claim 1). This is because, for example, the support cover 32 and support track 18 prevents such a movement of the rotating bodies. Thus, the rotating bodies 12 in Rowe can not possibly rotate along with circumferential edge of the roller bearing 20, which the Examiner contends corresponds to a wheel, about the first axis.

It is submitted that Rowe does not disclose or even suggest "a plurality of rotating bodies disposed along and rotating along with a circumferential edge of said wheel about the first axis and the plurality of rotating bodies rotatable about said circumferential edge as a second axis" (see claim 1.)

Siddiqui discloses "a computer input device with a ... wheel button type z-encoder mechanism. The wheel button is supported on an axle or spindle within the housing of the input device. The axle is supported in the housing by spaced-apart axle supports." (See Siddiqui at column 2, lines 3-8.) However, Siddiqui, does not disclose a coordinate input device, which has a plurality of rotating bodies disposed along and rotating along with a circumferential edge of said wheel about the first axis and the plurality of rotating bodies rotatable about said circumferential edge as a second axis" (see claim 1). In particular, Siddiqui does not even suggest anything related to "a plurality of rotating bodies."

Accordingly, it is submitted that claim 1 patentably distinguishes for the above-mentioned reasons over the cited art and should be allowable. Claims 2 and 11-12, which include an identical recitation to that of claim 1, should also be allowable for at least the same reasons as claim 1, as well as for the additional recitations therein. Claims 2-10, 13-17 and 20-21, which depend directly or indirectly from claims 1 and 10, are also allowable for at least the same reasons as claims 1 and 11, as well as for the additional recitations therein.

Reconsideration is respectfully requested.

CONCLUSION

There being no further outstanding objections or rejections, it is submitted that the application is in condition for allowance. An early action to that affect is courteously solicited.

Finally, if there are any formal matters remaining after this response, the Examiner is requested to telephone the undersigned to attend to these matters. If there are any additional fees associated with filing of this Amendment, please charge the same to our Deposit Account No. 19-3935.

Respectfully submitted,

STAAS & HALSEY LLP

Date: 11/20/02

By: Eric Berkowitz
Eric Berkowitz
Registration No. 44,030

700 Eleventh Street, NW, Suite 500
Washington, D.C. 20001
(202) 434-1500

VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE CLAIMS:

Please **AMEND** claims 1-17 and 20-21 in accordance with the following:

1. (THREE TIMES AMENDED) A coordinate input device having a wheel which is rotatable about a first axis [that can be operated through rotation], comprising:

a plurality of rotating bodies disposed along and rotating along with a circumferential edge of said wheel about the first axis and the plurality of rotating bodies rotatable [on] about said circumferential edge as [an] a second axis [of rotation];

rotating body rotating state detection means for detecting a rotating state of said rotating bodies;

wheel rotating state detection means for detecting a rotating state of said wheel;

a format change-over switch; and

data transmission means for transmitting information detected by each of said respective detection means as a set of operation instructions for a computer and adapted to effect transmission in a first format when said format change-over switch is not depressed and to effect another transmission in a second format when said format change-over switch is depressed.

2. (THREE TIMES AMENDED) A coordinate input device having a wheel which is rotatable about a first axis [that can be operated through rotation], comprising:

a plurality of rotating bodies disposed along and rotating along with a circumferential edge of said wheel about the first axis and the plurality of rotating bodies rotatable [on] about said circumferential edge as [an] a second axis [of rotation];

ball moving state detection means for detecting a moving state of a ball;

click switch operating state detection means for detecting an operating state of a click switch;

wheel rotating state detection means for detecting a rotating state of said wheel;

a format change-over switch; and

data transmission means for transmitting respective pieces of information detected by said respective detection means as a set of operation instructions for a computer and adapted to effect transmission in a first format when said format change-over switch is not depressed and to effect another transmission in a second format when said format change-over switch is

depressed.

3. (AS TWICE AMENDED) The coordinate input device as set forth in claim 1, wherein said coordinate input device has a left click switch as a first switch and a right click switch as a second switch, said coordinate input device further comprising:

a third switch disposed as a lower portion of said wheel;
a wheel support portion having a construction to support said wheel and to allow said wheel to slide and adapted to drive said third switch by depressing said wheel downwardly; and
third switch operating state detection means for detecting the operating state of said third switch.

4. (AS TWICE AMENDED) The coordinate input device as set forth in claim 3, wherein

said wheel support portion further comprises a ratchet construction on a side of said wheel, and wherein

said wheel is adapted to fit in said ratchet construction.

5. (AS TWICE AMENDED) The coordinate input device as set forth in claim 1, wherein

an inner wall at a center of said respective rotating bodies through which said circumferential edge is put has a locking construction, and wherein

said circumferential edge is adapted to fit in a second locking construction.

6. (AS TWICE AMENDED) The coordinate input device as set forth in claim 1, wherein said rotating body is of a cylindrical configuration.

7. (AS TWICE AMENDED) The coordinate input device as set forth in claim 1, wherein said rotating body is of a spherical configuration.

8. (AS TWICE AMENDED) The coordinate input device as set forth in claim 1, wherein a surface of said rotating bodies is covered with a slip preventive material.

9. (AS TWICE AMENDED) The coordinate input device as set forth in claim 1,

wherein a recess is formed in a surface of said rotating bodies.

10. (AS TWICE AMENDED) The coordinate input device as set forth in claim 1, wherein said coordinate input device further comprises:

ball moving state detection means for detecting a moving state of a ball; and
click switch operating state detection means for detecting an operating state of a click switch.

11. (THREE TIMES AMENDED) A coordinate input device having a wheel which is rotatable about a first axis [that can be operated through rotation], comprising:

a plurality of rotating bodies disposed along and rotating along with a circumferential edge of said wheel about the first axis and the plurality of rotating bodies rotatable [on] about said circumferential edge as [an] a second axis [of rotation];

rotating body rotating state detection means for detecting a rotating state of said rotating bodies;

a wheel rotating state detection unit detecting a rotating state of said wheel;

a format change-over switch; and

a data transmission unit transmitting information detected by each of said respective detection units as a set of operation instructions for a computer and adapted to effect transmission in a first format when said format change-over switch is not depressed and to effect another transmission in a second format when said format change-over switch is depressed.

12. (THREE TIMES AMENDED) A coordinate input device having a wheel which is rotatable about a first axis [that can be operated through rotation], comprising:

a plurality of rotating bodies disposed along and rotating along with a circumferential edge of said wheel about the first axis and the plurality of rotating bodies rotatable [on] about said circumferential edge as [an] a second axis [of rotation];

a rotating body rotating state detection unit detecting a rotating state of said rotating bodies;

a ball moving state detection unit detecting a moving state of a ball;

a click switch operating state detection unit detecting an operating state of a click switch;

a wheel rotating state detection unit detecting a rotating state of said wheel;
a format change-over switch; and
a data transmission unit transmitting respective pieces of information detected by said respective detection units as a set of operation instructions for a computer and adapted to effect transmission in a first format when said format change-over switch is not depressed and to effect another transmission in a second format when said format change-over switch is depressed.

13. (AS TWICE AMENDED) The coordinate input device as set forth in claim 11, wherein said coordinate input device has a left click switch as a first switch and a right click switch as a second switch, said coordinate input device further comprising:

a third switch disposed as a lower portion of said wheel;
a wheel support portion to support said wheel and to allow said wheel to slide and adapted to drive said third switch by depressing said wheel downwardly; and
a third switch operating state detection unit detecting the operating state of said third switch.

14. (AS TWICE AMENDED) The coordinate input device as set forth in claim 13, wherein said wheel support portion further comprises a ratchet construction on a side of said wheel, and wherein said wheel is adapted to fit in said ratchet construction.

15. (AS TWICE AMENDED) The coordinate input device as set forth in claim 11, wherein an inner wall at a center of said respective rotating bodies through which said circumferential edge is put has a locking construction, and wherein said circumferential edge is adapted to fit in a second locking construction.

16. (AS TWICE AMENDED) The coordinate input device as set forth in claim 11, wherein said rotating body is of a cylindrical configuration.

17. (AS TWICE AMENDED) The coordinate input device as set forth in claim 11, wherein said rotating body is of a spherical configuration.

20. (AS ONCE AMENDED) The coordinate input device as set forth in claim 11,

wherein a surface of said rotating bodies is covered with a slip preventive material.

21. (AS ONCE AMENDED) The coordinate input device as set forth in claim 11,
wherein a recess is formed in a surface of said rotating bodies.